THE

HORTICULTURIST.

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Growing Plants in Rooms.

THE subject of growing plants in rooms, always a very interesting one, has received an additional interest since the introduction of the Wardian case; or, rather, since the Wardian case was popularized, if we may use the expression; for it is now nearly twenty years since the Wardian case was made known to the American public. Plants are grown in rooms with very unequal success by different persons, which is owing mainly to three causes: first, unsuitable conditions; second, improper selection of plants; third, want of knowledge. Having had no inconsiderable experience, in former years, in growing plants in rooms, we propose to examine these causes of failure, with the hope that we may be able to say something that will help the reader to overcome them. The love of plants may be said to be universal; and we know of no period of history in which this love has not manifested itself by the cultivation of plants, either at the window or on the top of the dwelling. We accept the fact as an evidence of the beneficence and wisdom of the Creator. It would be deeply interesting to trace the development and manifestations of this love of plants, from its origin in the garden of Eden, up to the present time; but at present we wish to confine our remarks chiefly to the conditions under which plants may be most successfully grown in rooms.

For our present purpose, we may say that plants need chiefly sunlight, a moist air, and a moderate degree of heat. It is apparent that a room usually affords these conditions very imperfectly, and our object should be to supply the deficiencies by the best means at command. The old-fashioned fire-place and wood stove gave us a soft and mellow heat, and growing plants in rooms was comparatively easy; but the introduction of hot-air furnaces has surrounded the subject with almost insuperable difficulties. The air produced by these furnaces is so dry and exhausting, that moisture is abstracted faster than the vitality of the plant can supply it; all its functions, consequently, become deranged, disease follows, and the plant gradually pines away and dies. This is especially true of those plants that require a very humid atmosphere for their healthy growth. We have, therefore, unwillingly

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been brought to the conclusion, that plants can not be well grown in a room which is heated with the full power of a hot-air furnace, if we barely except succulents; and the heat is generally too strong, if not too dry, even for these.

But, it may be asked, can nothing be done to modify this state of things, so as to make the growth of some plants possible? We answer, Yes. In the first place, let the register be so regulated that the room at no time shall become overheated; that is to say, above a pleasant living temperature. The top and bottom sash of the window should be often opened, to admit fresh air, which will benefit the inmates of the room as much as the plants. The human system can endure an overheated air but little better than plants. A basin of water placed over the register will be an additional help. A man in Newark, N. J., whose name we forget, has invented a contrivance, which he places within and near the mouth of the register. This is kept filled with water, which is evaporated into the room, and the air becomes charged with an appreciable amount of moisture. Where a coal stove is used, a basin of water should be kept on the top. Any contrivance, indeed, that will add a little moisture to the air of the room, will be found desirable. One of the best is a table, made so as to contain wet sand on the top. A little detail will probably not be unwelcome here. The table should be made strong, with rollers to the legs, that it may be easily moved from the window when necessary, as is sometimes the case on a very cold night. A movable table is also convenient in watering and cleaning the plants. The table should conform to the shape of the window; if, for example, the window is a bay, the sides of the table should be angular accordingly. For a common window, the table may be two and a half or three feet wide, and a little longer than the width of the window. The top of the table should be on a line with the window-sill. Around the edge of the table should be screwed a piece of board, four inches wide; a narrow moulding on the lower edge will give it a neat finish. Two good coats of stone paint will be necessary to preserve the wood work. The top of the table will present the appearance of a shallow box, which is to be filled with silver sand or fine moss; or a couple of inches of sand may be put on the bottom, and the top of the sand covered with green moss from the woods, which will give the table a handsome finish. Additional beauty may be given to it by planting Lycopodium around the edge. The pots are to be set on the top of the moss or sand. When the plants are watered, all the surplus water and drainage are caught by the moss and sand, from which an evaporation will constantly go on, greatly conducive to the health of the plants. The sand must be kept moist at all times, and must be watered for this purpose, if necessary. The vapor, as it rises among the plants, will be found to condense on them at times during the night, and this is just what is wanted. A table of this kind is worth all the fancy stands that the ingenuity of man has invented. Plants look better on it, and they grow better.

We trust we have now given the reader some idea of the *conditions* under which plants may be successfully grown in rooms. The other points will be reserved for another article.

COUNTRY HOMES.

BY MEAD & WOODWARD, ARCHITECTS, &C., 37 PARK ROW, N. Y.

We show this month what can be done with a substantial old farm house; how easily and beautifully it can be changed into a suburban home of elegant exterior, and comfortable and convenient interior appointments.

This class of spacious and substantial arm houses, with the gambrel, curb, or Mansard roof, as shown in *Fig.* 64, are very numerous about the suburbs of New

Fig. 64.—*View of the Nichols House, near Englewood, N. J., at the time of Purchase.*

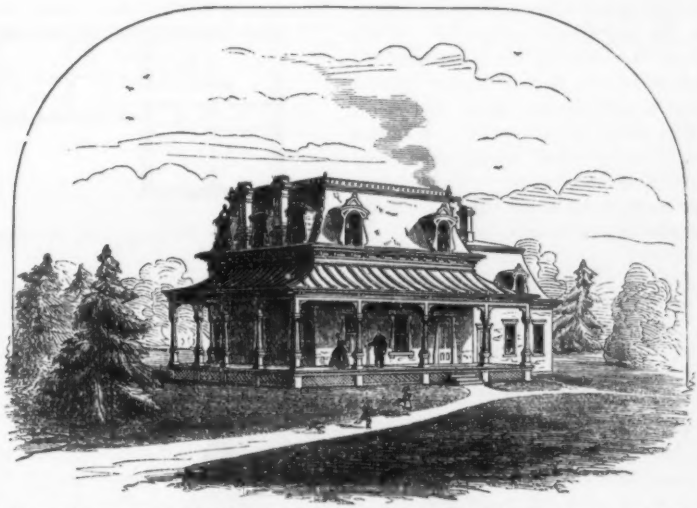


Fig. 65.—*The same remodeled for Rev. T. G. Wall, by Mead & Woodward, Architects and Contractors, 37 Park Row, N. Y.*

York City, and more particularly in the "neighboring province of New Jersey," where one finds them nestled in the valleys or by the road side, as best fitting to the taste of our early Dutch settlers, who prized seclusion and protection above bleak exposure and far-reaching views.

As a general thing, the better class of New Jersey farm houses of this type were built of squared and hammered red sand-

stone, laid up in regular courses, and in many instances the character of the work differed on all sides, the front being the most finely finished. And in many of the most pretentious of these houses, brick was substituted for the front, as being less common.

There is, perhaps, nothing more difficult in an architect's experience than to make a fine thing out of a subject so destitute of beauty of form or proportion, and yet preserve the substantial walls and other belongings, that have stood for half a century, and are now stronger, and promise a durability that exceeds those of other houses built in this progressive age; and yet here is a "presto change" that will almost defy the keen eyes of the old settlers to recognize any trace of the ancient landmark that for fifty years has overlooked the beautiful valley of the Tenakill.

There are very many of these old houses that are equally well adapted to wear a modern face, though but few purchasers can look through all such changes with the eye of a professional expert, and select that to which, at a low price, a certain beauty can be added, which, when done, shall indicate the wisdom of their choice. First impressions many times are sadly against all hopes of success.

"With weather-stains upon the wall,
And stairways worn, and crazy doors,
And creaking and uneven floors,
And chimneys huge, and tiled and tall."

But these difficulties are the least troublesome to adjust, if the walls are good, and ceilings of a fair modern height. It may then be a better choice to adapt such a house to the present cultivated tastes and requirements, than to build anew from the foundation.

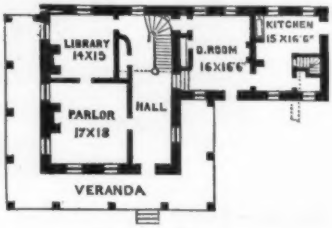


Fig. 66.

In the plans, the dotted lines show the

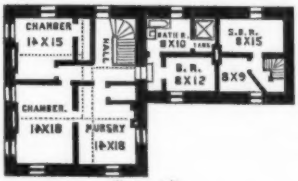


Fig. 67.

centers of the old partitions. Six feet have

Fig. 68.—*Stable.*

been added to the length of the wing, thus improving the kitchen accommodations.

This house is situated within a moderate walking distance of the flourishing new suburb of "Englewood," some fifteen miles from the great commercial metropolis, on the line of the Northern New Jersey Railroad, and adds prominently to the architectural surroundings of this charming and attractive locality.

In *Figs.* 68 and 69 we give a design for a stable for four horses. It may be constructed of either wood or stone.

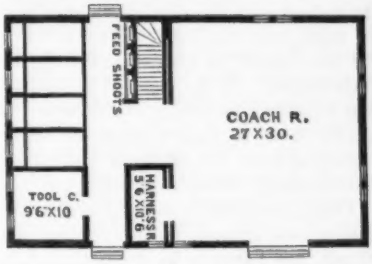


Fig. 69.

Figs. 70 and 71.—Plan and elevation of an entrance gate, which we have executed in oak, and presents an effective appearance.

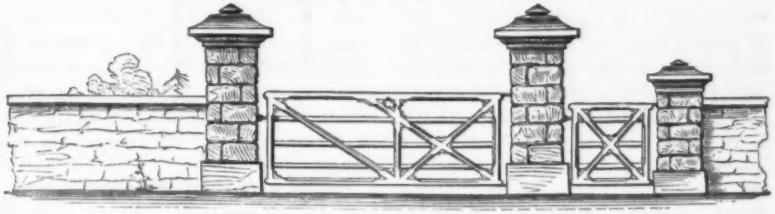


Fig. 70.—*Elevation of Entrance Gate.*

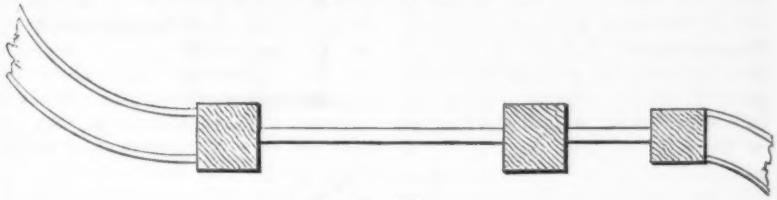


Fig. 71.—*Plan.*

REMARKS ON GRAPE VINE MILDEW.

BY A. VEITCH, NEW HAVEN, CON.

It is hardly possible to overestimate the mischief done to grape vines by mildew. Those, therefore, interested in their cultivation can not be too inquisitive as to the causes of that disease, and especially the means of preventing it, so far as can be known. Unfortunately for this, however, there is much relating thereto so involved in mystery as to elude the observation of the keenest investigator. We know that mildew is caused by minute fungi growing in or upon the leaves of the vine, and other delicate parts, in a truly parasitical way, which is at the expense of those parts affected. But we can not tell whence these do come; whether their seeds are carried about in the air, making no sign until a suitable resting place is found, in which to germinate and grow, under those conditions required by the laws of their being, or whether the plants upon which they grow contain those seeds,

bound up in their structures, or circulate throughout with the sap. Such questions as these, however, I am willing to leave for the learned to discuss and settle at their leisure. At the same time, enough may be known by intelligent cultivators to enable them to control some of those causes at least, the effects of which they have so much reason to deplore.

Vines, especially in city yards, or where they are not exposed to a free circulation of air, are liable to be injured by other causes than mildew. In seasons like the last, when for several weeks together the weather was excessively dry, succeeded by heavy rains, they suffered much from "sun scald," at least about here. And in general, those were most injured which were driest at the roots preceding the rains; owing, it would seem, to extreme delicacy, superinduced by too great a protection from the invigorating influence of moving air, and the want of moisture at the roots to insure a healthy growth. When in this condition, the leaves are extremely liable to be hurt by the sun shining full upon them, when wet with dews or frequent showers. In this state, also, they are liable to the attacks of mildew; for whatever tends to foster delicacy of growth, or weaken the functions of the vine, prepares the way for the advent of this enemy. Experience teaches this, else why was it that vines in city yards, as a general thing, suffered more the past season than those growing in open lots? I know of a vineyard in Cheshire, Conn., in an exposed situation, the ground sloping to the north or northwest, without any natural or artificial protection, where the vines were entirely free from mildew last year. Many similar instances could be mentioned, all tending to show that a free circulation of air is unfavorable to the growth of mildew.

It also seems evident that the way in which vines are pruned in many instances fit and prepare them for the assaults of this enemy. I refer especially to the very common practice of leaving the wood, at winter pruning, in a crowded state. This practice, instead of insuring a valuable crop, gives the vines the chance of frittering away their strength in their efforts to perfect a superabundance of foliage and fruit, none of which they are able to do; and, consequently, their energies being overtasked, they exhaust themselves, and thus become the ready prey of mildew fungus.

To guard against this, it is necessary to prune in such a way as to secure annually a vigorous growth; which can be done by following the advice of Mr. Mead, in his "Hints," or by any other method founded in principle, although not "found in the books." By so doing, over-crowding would be avoided, and the sap would flow through well-regulated channels, causing a healthful development of every part, which, in ordinary seasons, would go far to maintain the vine uninjured to the close.

It may also be said of summer pruning, the only rational way is to begin early and do it often throughout the growing season, as, by so doing, there would be no necessity for taking much from the vines at any one time. But should this operation be neglected until about midsummer, it would be better not to prune at all, at least not until the mildew season is over, which might not be until late in the fall. We say this from having frequently observed vines so treated, or rather maltreated, suffer greatly from mildew, when others more fortunate have been comparatively exempt. In such instances, it is easy to account for the difference. It is in the fact that by taking from a vine all at once a great breadth of foliage, the due balance between the roots and the branches is destroyed, without any hope of readjustment for weeks to come, and the whole system so shocked as to cause a derangement of function, ending in general debility, which may be regarded as the certain harbinger of mildew as well as "sun scald." The leaves in a crowded state protect each other from currents of

air and the direct rays of the sun, and when deprived of this protection they are so tender that, instead of being benefited by exposure, they often suffer great harm, and cease forthwith to be of any further benefit.

Another fruitful cause of mildew is sudden and important changes as regards moisture at the roots or in the atmosphere, either from damp to dry or dry to damp; or when there is a great relative difference in this respect between the soil in which they grow and the atmosphere. Should the weather be dry in June and July, followed by heavy rains in August and September, mildew may reasonably be looked for. It is worthy of notice that vines growing in a southern aspect, or where they are likely to become very dry at the roots, are more liable to suffer than those whose roots have been kept uniformly moist. Several cases might be mentioned in support of this. In one instance, an acquaintance, for the sake of convenience, built a compost heap close up to his vine arbor, and over the roots of several vines; those showed no indications of mildew, while others in their neighborhood suffered badly. In another yard, the roots of the vines ran under a a walk paved with brick, a sufficient means of retaining moisture, surely; these likewise escaped. In the vineyard already referred to, the vines were mulched with straw, and did not suffer from drouth. Such instances as these naturally suggest the propriety of properly preparing the ground previous to planting; which can be done only, in many situations, by trenching the ground to the depth at least of two feet, which will be the means of not only enabling the vines to receive a requisite supply of moisture, and not more, but also of increasing its temperature, which, apart from other advantages, would greatly tend to prevent mildew. And even in very dry weather, watering would be beneficial; but perhaps by mulching properly it might be dispensed with.

There can be no doubt but cold in the atmosphere often brings on this disease, and I can not find any good reason for not believing that changes of temperature in an opposite direction do the same thing. This, at least, does not prevent it. It would rather seem, mildew fungus is not over nice as to any particular degree of heat, provided one or other of those causes we have endeavored to state had been at work on the vine, so prostrating vitality as to expose its delicate organs to the attacks of this subtle foe. The experience of last season seems to teach this, and is so viewed by a correspondent in a late number of the HORTICULTURIST, who says, "Vines mildewed from the 10th of July to the 1st of September," during which time there were "terrific showers of rain, accompanied with a hot and damp atmosphere, the thermometer for nearly six weeks standing at 90° in the shade, and heavy showers of rain nearly every day."

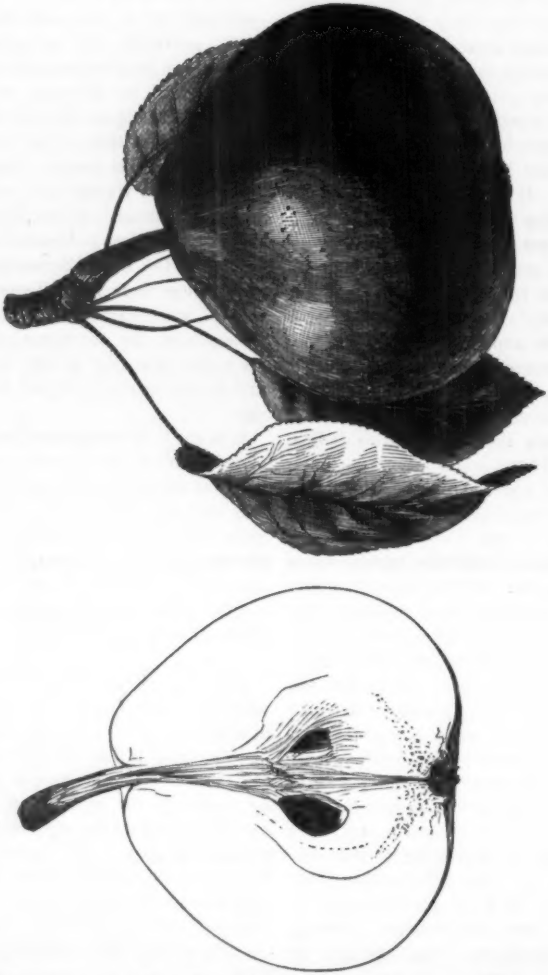
It is needless to say an adequate supply of nutritious food is necessary to the well-being of the grape vine, and when this is withheld, as often is the case with old vines, they are greatly prized by the parasite we speak of. In short, it would seem, could we maintain all the conditions of health, vines would rarely suffer from either blasting or mildew.

[We regard Mr. Veitch's article as a valuable contribution to the history of mildew. He is entirely correct in saying that "it is hardly possible to overestimate the mischief done to grape vines by mildew," for millions of capital are dependant upon the operations of this mysterious pest. Mr. Veitch's remarks deserve to be carefully read, for they are suggestive, especially those on summer pruning. We must have protection without interrupting the circulation of air.—ED.]

DUCHESSE DE BERRI D'ETE PEAR.

BY THE EDITOR.

This is not quite a new Pear, but it is not generally known. It is a late summer or early autumn pear, ripening the last of August and early part of September. It is rather a vigorous grower, and moderately productive; but coming in at



a time when larger pears of good quality are becoming plenty, its size will be objected to by some. We regard it, however, as worthy of a place in an amateur's

collection. Our own description not being within reach, we give that of Mr. Charles Downing, which is substantially the same, with this advantage, that Mr. Downing has known it longer than we have.

"*Fruit* small, oblate, obscurely pyriform. *Skin*, yellow, shaded with light red. *Stalk*, short, inserted in a small cavity. *Calyx*, partially open, set in a broad shallow basin. *Flesh*, juicy, melting, with a good vinous flavor."

PLANT HOUSES.—X.

BY THE EDITOR.

We have selected for illustration this month a plant house quite different in its design from those heretofore given. It was designed and built for J. C. Johnston,

Fig. 1—Perspective View.

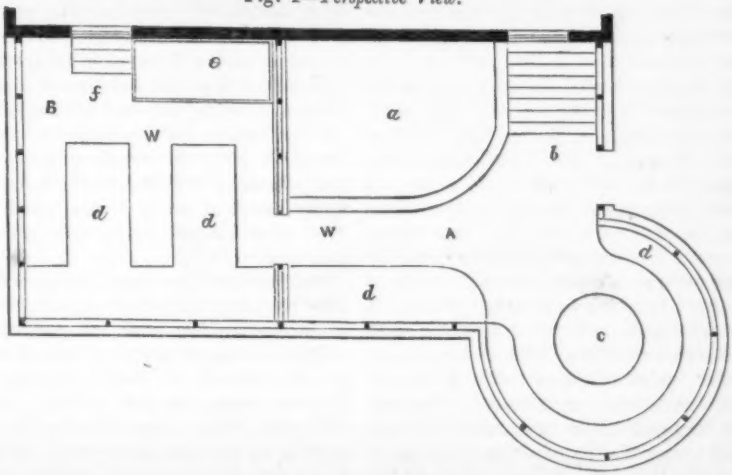


Fig. 2.—Ground Plan.

Esq., of Scarborough, N. Y. It is built on the south side of the dwelling, and is entered from the parlor as well as from the pleasure grounds. *Fig.* 1 is a perspective view, which gives the reader a good idea of its general appearance, though we can not help saying that in this case, at least, the picture does not flatter; the house looks finer on the ground than in the picture. The circular house on the southeast corner is strictly an ornamental feature, and a very pretty one.

The interior arrangement is shown in the ground plan, *Fig.* 2. The house is divided into two compartments, A and B. The last is intended for growing and propagating plants. The house is heated by hot water pipes, the boiler being placed in the cellar of the dwelling, which is entered by the steps, *f*; *e* is a propagating tank, fitted with sliding sashes. It is quite large enough to propagate all the plants the owner will want; *d*, *d*, are beds about a foot deep, with a moderate bottom heat, for plunging pots in when desired; *w* is the walk. This compartment is to be used for bringing plants into bloom, after which they are to be taken to the show room or conservatory, marked A in the plan. The arrangement of this compartment is such, that all the plants in it may be seen from the parlor door or window, the steps leading to which are marked *b*; *a*, *d*, *d*, are tables; *c* would make a pretty little fountain, but it is intended at present to put it in the form of a rustic basket, and fill it with ornamental plants. The effect can not be otherwise than good. Climbing plants of various kinds will be trained up the mullions and rafters of the circular house, and allowed to hang in festoons from the roof. When the house is filled with flowering and ornamental-leaved plants, with climbers dependent from the roof, the effect will be charming. We can already see that Mr. Johnston has provided for himself a source of deep enjoyment and comfort.

BURIAL PLACES OF SMALL EXTENT.

BY J.

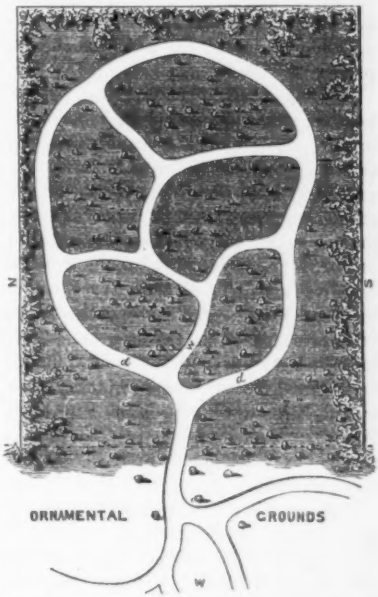
What a multitude of burial places there are scattered all over the country, now without suitable inclosures, open to the encroachments of cattle, without trees, grown up to bushes and weeds, small and contracted in extent, crowded with headstones leaning in all directions, telling a tale of neglect and heartlessness disgraceful to any people. May we not charitably suppose that this state of things is but a libel on the true character of many communities who suffer them to exist? It has often occurred to us that much of this neglect is owing to a want of knowledge of what to do, rather than a willingness to let such a condition of things remain. In other instances it is probably owing, in a great measure, to carelessness on the part of the people where this neglect is found, and a want of unity of action in efforts to remedy the evil. In many parts of our country a better spirit is manifesting itself, and we are happy to think what is now doing may act as a leaven to change the whole aspect of things in this respect. May we not hope the time is not distant when a more Christian and civilized view of this matter will pervade our whole country? To such journals as your own we look, to give direction to efforts for the improvement of works of this character. With these feelings, we present to you our own case.

Connected with an ornamental ground of considerable extent, which is laid out in the modern style of landscape gardening, we have a piece of ground fenced off in a pen-like manner, 13 rods wide and 16 rods deep—a rectangular plot, in form a parallelogram. What a look of neglect shows itself as we look over the ground! Seven large apple trees and many smaller ones,

looking as though some money consideration retained them in their present position; a variety of straggling, unsightly trees and bushes; coarse, neglected grass, mown once in a season, for its supposed money value; a rough and uneven surface, with burials in rows across the lot, in straight lines, leaving a space through the center from north to south and from east to west, apparently designed to afford a place, at some future time, for walks in these directions. Upon this neglected spot, we are ashamed to confess, are the monuments of President Azel Backus, President Henry Davis, Hon. William H. Maynard, Professors Seth Norton, Josiah Noyes, J. Findley Smith, and others. Here, also, lie the remains of Rev. Samuel Thornton Kirkland, the early Christian missionary, who, with a prophetic view of the future of this country, provided princely gifts to found an institution of learning and science. By his side lie the remains of his Indian friend, the great chief, statesman, and humble disciple, Shenandoa.

It has long been felt that this neglect was not creditable to us, and that it was an unfair expression of the respect and affection still cherished among us to the memory of those individuals whose bodies lie buried there. At a late meeting of a few individuals interested in these grounds, it was determined to put them in good condition, and arrange a system of walks, with a drive around the whole; to plant them with choice trees and shrubs, and so to beautify them, that they shall no longer compare unfavorably with other well-arranged grounds of like character. It is designed to expend such sums of money in this improvement, and its future keeping, as may be realized from those who feel interested in this enterprise. The inclosed plan was adopted as one suitable for its improvement.

It originally consisted of about one acre of land, but to which has recently been added, by the gift of one greatly interested in the contemplated improvement, about one third of an acre more. It is proposed to work the cemetery ground so that it will harmonize with the ornamental grounds to which it is attached. To partially disconnect the cemetery from the ornamental grounds, we design to plant groups of trees pretty thickly along the division line, but not so as to cut off



entirely a view of the monuments from the ornamental ground. It is intended to grade the whole surface to correspond with the natural slope of the grounds, and to cover it with grass, to be kept well cut, and to make good and substantial roads and walks. The other lines of the cemetery are to be planted with a good hedge, as a protection against encroachments. The drive is so arranged as to give, while passing around it, a view of the whole ground, approaching very near the boundary on the north, which is made necessary by the manner in which burials have been located. The intermediate walks are nearly confined to the points indicated on the plan for the same reason.

To break up the present stiff and formal arrangement of monuments and headstones, the idea indicated on the inclosed diagram was adopted; that is, to plant near the bounds, inside the protection hedge, an irregular screen of evergreens, with deep indentations and recesses, leaving spaces sufficient for burial lots around the whole outer lines, where the drive does not approach too near the lines to prevent so doing.

To remove the objection to the present location of burials already made, and to break up their straight lines, it is designed to plant, as shown on the plan, with evergreens, so as to divide the whole central part into spaces in extent suitable to meet the wants of any families who may be buried there. The points near the walks and road, and in front of the recesses, to be planted with choice deciduous trees and shrubs, such as the new American, Rosemary-leaved, and Kilmarnock Willows; Fern-leaved Beech, Weeping Cherry, Cut-leaved Weeping Birch, Viminales Elm, Weeping Thorn, and others, and such shrubs as Euonymus, Spiræas, Viburnums, Weigelas, etc.

The location of this cemetery is on the east slope of College Hill, and overlooks for many miles the valleys of the Oriskany and the Mohawk, the northern slope of Paris Hill, and affords a distant view of the Steuben and Trenton Hills, giving many views, for variety and beauty, which can scarcely be exceeded.

From the ground, for many miles, may be traced what is known as the old property line, extending from Wood Creek, near Rome, to a point on the Mississippi, near where the Tennessee River empties into it. This line was adopted by a formal convention, held at Rome, in 1768, and was designed as a boundary line for ever between the whites and the red men, who were then the owners of this vast territory. It now remains a sad memento of a race of people, not far back in point of time, who once owned and lived in this fertile region of our country, and who have now disappeared from among us.

Will you please give us your opinion of our plan, and make such suggestions as may occur to you in regard to the improvements we contemplate? Perhaps, in so doing, you may help others who are in a similar condition to our own, and, like us, need your advice.

[It is only too true that the condition of our rural burial grounds is not such as it should be; and though this is unmistakably the result of reprehensible neglect, we are far from believing it to be an evidence of indifference to the memory of the dead. The causes that you assign, and others of a similar nature, no doubt operate potently; so, also, does the consciousness that our burial grounds are mostly only temporary abiding places, even for the dead; and that the so-called spirit of improvement will in a few years sweep them all away. The recent formation of Cemetery Associations is doing much to correct this evil, by turning aside this "spirit" from desecrating the cities of our dead. You have, therefore, adopted a very judicious course to relieve your burial ground from the reproach that now rests upon it. We have no doubt that you will find a general readiness on the part of your people to co-operate with you. We are much pleased with the general design of your plan. Small places are often spoiled by attempting too much. This you have happily avoided. A single boundary drive is all that should be attempted here. It approaches the boundary too closely on the north; but that seems to be unavoidable. We do not see how the line of the walks could be improved, under the circumstances. The boundary planting, with a broken outline, is very good; but avoid marring its boldness by breaking it too much into detail. The recesses formed would be appropriate for monuments. No provision seems to have been made for a receiving vault. Both the southeast and

northeast corners would be suitable places for vaults, or even the middle of the east border. The idea of dividing the middle ground into plots by evergreens pleases us very much. It is in very much better taste than those dreadful iron chains and rails. We should increase the depth of planting a little on the right and left, at the points where the cemetery grounds merge in those of the ornamental grounds, so that they shall be gradually lost in each other. The introduction of water would be an interesting feature, but there seems to be no source of supply. In edging, let the sod come down gradually till it meets the face of the walk. We dislike a naked, perpendicular edge to a walk; it looks bad, and is not easy to keep in order. You have done the plan so well, that there is not much room for criticism. The improvements that could be made by disturbing the dead are so slight, that the thing is not to be thought of. If your trees are judiciously grouped, and the proposed improvements carried out, you will have a cemetery that will be highly creditable to the intelligence and taste of all concerned in it.—Ed.]

SASHES *VERSUS* FIXED ROOFS.

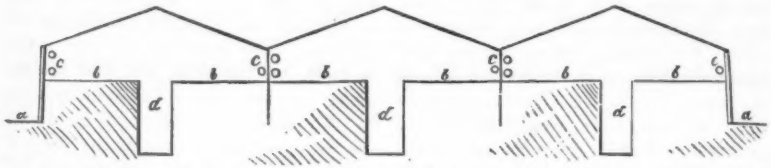
BY PETER HENDERSON, JERSEY CITY.

I have read and examined from time to time, with much interest, your remarks and sketches of Plant Houses, and it is not to dissent from your views that I now write, although it seems to me that your ideas run all one side of the matter, for your designs and descriptions are almost exclusively of an ornamental character, and adapted only for conservatories or graperies, leaving the uninitiated commercial nurseryman or florist to look in vain for something to suit his case. I have said that your ideas seem to be one-sided, in describing only ornamental erections; they seem also so in your uniformly recommending the fixed roof principle. Now, for the purposes of the florist or nurseryman, I think there is but little doubt that the advantage is with the sash over the fixed roof. The difference in cost is trifling; probably a little in favor of the fixed roof; but balanced against that is, that your house, once erected on your favorite plan, you are emphatically "fixed." It is not portable, (unless made in sections, which is only a bad compromise with the sash plan,) and any alteration requiring to be made, your roof is of but little or no value. But the most serious objection to it is the difficulty with air. I have never yet seen a house built on the fixed roof principle that had means of giving air so that plants could be grown in a proper manner, and I could name dozens who have been induced to build on this plan, that one year's experience has given them much reason to regret.

We are now adopting for plant houses, low, narrow, span-roofed buildings, formed by 6 feet sashes, one on each side, the *ends* of the houses facing north and south. These we attach three together, on the "ridge and furrow" system, as shown in sketch. This system presents great advantages, and, by using no cap on the ridge piece, air is given in the simplest and safest manner, by the sash being raised by an iron bar 9 or 10 inches long, pierced with holes, which answers the double purpose of giving air and securing the sash, when closed, from being blown off by heavy winds. There is no necessity for the sashes being hinged at the bottom, as might be supposed; all that is required being to nail a cleet along the wall plate, fitted tight to the bottom of each sash. Every alternate sash is nailed down; the other is used in giving air in the manner described.

The advantages of such erections are so obvious, that I need not trespass much on your space to enumerate them. The plan

can be adapted to detached buildings already up, by erecting houses of the same length alongside; or, in the erection of new houses, if not more than one is wanted, it may be put up with a view to further extensions. I have had four



a, ground level.—b, bench or table on which to stand plants, 4½ feet wide.—c, 4 inch pipe, 3 in each house.—d, pathway, 2 feet wide.

houses on this plan in operation for nearly two years, and I have never before had so much satisfaction with any thing of the kind. Intending next season to remove my green-houses from their present site, all shall be put up after this style.

[We are glad to learn that you have been interested in our plant-house sketches. Your criticisms are quite welcome. We propose to examine them briefly. It is admitted, in this case, that "our ideas run all on one side," to the extent that the designs thus far given have been mainly intended for amateurs. The reason is this: being an amateur ourself, we are most familiar with the wants of the amateur, and we have supplied his wants first, as belonging to the most numerous class. The nurseryman and the florist are better able to supply their own wants, as they generally do, by building their own houses in their own way. But by and by we will see if we can not do something for them. The purposes of the amateur and the florist are so dissimilar, that the same house will hardly answer best for both; yet the general principles involved are the same. You object to our style of house that it is "not portable," but, when once erected, is "emphatically fixed." Precisely so; that is just what is intended. An amateur locates his house with a "fixed" purpose, and intends that it shall remain "fixed." Unlike the florist and nurseryman, he has no occasion to move it. Our house *is* "fixed;" yours, alas! is not. Unplaned and unpainted, it is always rotting and tumbling to pieces, and has to be built over again every four or five years; in fact, we have seen more than one case where it was necessary to replace nearly all the principal timbers at the end of the second year. We beg your pardon; your house is "fixed;" it is being "fixed" all the time, and yet it is never "fixed." Is such a house most economical, even for florists? Those who have both kinds assure us that they are not, and among them one of the best and most extensive florists in the country. In regard to alterations, they can be made in the fixed roof about as easily as they can in the sash roof. Neither can make much of an argument here.—Next comes the "difficulty with air." Just here we beg to assure you, that with the "fixed" roof, air enough can be admitted to "blow your head off." If it is not done, it is not because it can not be. You want to keep your plants nearly dormant during the winter, and consequently must have a good supply of cool air on warm days. The amateur wants to keep his plants growing freely, and wants but comparatively little air. What is best for him is not best for you. Then, again, you want, at the end of winter, a short, lively growing season, and the means of hardening off your plants rapidly; and the sash roof undoubtedly affords you the facilities abundantly. But all this can be done very cleverly with the "fixed" roof; and as you are about building, we propose to put you to the test.

We will furnish you with a plan for a house or section, which you shall build to the "letter." If it does not do all that is claimed, we will take it down at our own expense.—In compactness and general economy, the "ridge and furrow" presents some decided advantages for the florist. The accumulation of snow in the ridges is an objection, but not an insuperable one. Yours would be more economical if made a little wider.—Ed.]

VENTILATION OF GRAPE HOUSES.

BY WM. BRIGHT, PHILADELPHIA.

The most simple, convenient, and efficient method of ventilating grape houses which we have ever been able to devise, is shown in the following engravings.

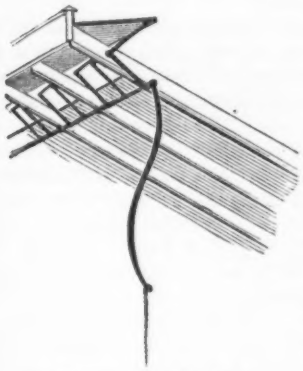


Fig. 1.—*Top Ventilator.*

The top ventilator is formed by a sash, all in one piece, running the whole length of the house, and opened at one motion, by simple machinery.

The front, or bottom ventilator, is only four inches wide, and is placed almost up to the glass, so as to carry the stream of fresh air *over* the plants. This is also opened and closed by a crank and shaft, with iron elbows, and is all the front ventilation that will ever be found necessary.

Another method of making the front ventilation is shown in the engraving of a lean-to vinery, lately erected in this city.

The sashes in front are hung with ropes and weights, like window sashes, running down, (not in closed-up cases,) in front of the wall. This method of forming the front ventilator gives a more elegant appearance to the house, but in no other

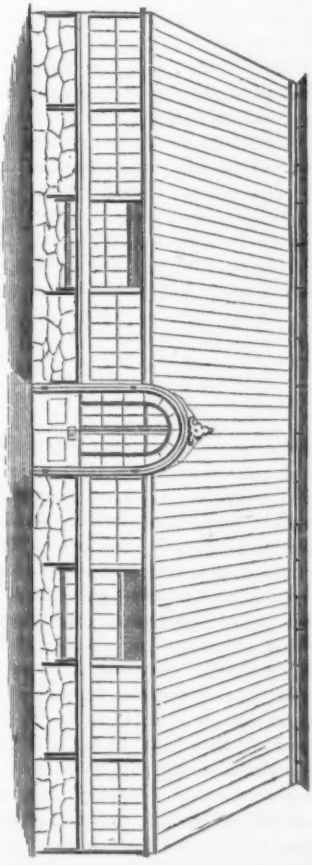


Fig. 3.—*Lean-to Vinery. Front and Top Ventilator.*

respect is it better than the four-inch ventilator made of wood, as shown in *Fig.* 2. The top ventilator, in *Fig.* 3, is the same as shown in *Fig.* 1.

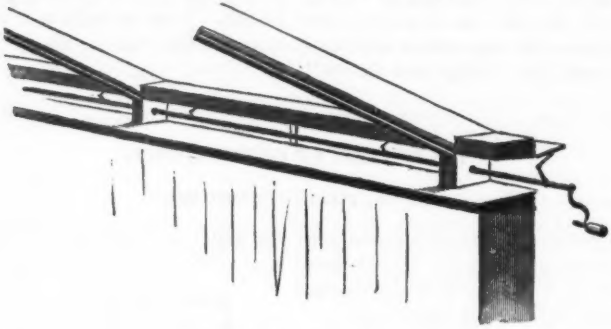


Fig. 2.—*Front Ventilator.*

[The principle of admitting air over the plants, and not on them, is undoubtedly the correct one, as we have many times stated. Your contrivance lets the air in at the right point. For a plant house, we should prefer the arrangement in *Fig.* 3; the other is better adapted to a grapery. The mechanism for working the top ventilators is very convenient, but it is costly, a similar contrivance in New York having cost *one dollar* a running foot to put it up. Will yours cost less? Your top ventilator would be very much better if hinged at the bottom, for reasons which will naturally suggest themselves. The subject of ventilation may be ventilated profitably.—Ed.]

A GOOD TREE PLANTER.

BY THE EDITOR.

Several years ago, we saw in some publication a description of a tree planter. It seemed to be a good thing, and we had one made immediately, which we have continued to use to the present time. Others have used it at our suggestion, and have been well satisfied with it. It is, indeed, a great labor saver. It does away with the annoyance of sighting "both ways," or, indeed, any way. The accompanying figure illustrates its use. It is made of a piece of board eight feet long and six inches wide. In the middle, a half circle, four inches in diameter, is cut out, as seen at *c*. At each end, an inch and a half auger-hole is bored, shown at *a*, *a*.

A description of the manner of using it will not be out of place. A number of stakes will be needed, which should be six or eight inches long, and rather more than an inch in diameter. It is of no con-

sequence whether they are square or round. They may be split from pine boards, or small branches or saplings may be cut from the woods into proper lengths. Now, suppose a row of trees is to be

planted. First, stretch a line for the row, and measure off the distances at which the trees are to be planted. At each place, and close to the line, drive in one of the small stakes. Now take up the line. This much has to be done whether the tree planter is used or not. The next operation consists in placing the tree planter against the stake, so that the latter comes in the middle of the upper edge of the semicircle, when a stake is to be driven in the hole at each end of the tree planter. The whole row is to be gone over in this way; and it can be done in half the time that it takes to describe it. When the holes are dug, the size is marked around the middle stake, which is then removed. The earth should be thrown on one side, so that when the planter is put down again it shall rest on the level ground. We will suppose that the holes have been dug, and the trees are ready to be planted. The planter is to be placed over the two end stakes, which were not removed. The semicircle will be over the middle of the hole. The tree is to be held straight against the middle of the semicircle, (just where the middle stake stood,) and the filling in done in the usual way. (See the figure.) When the row is finished, it will be found to be a perfectly straight line, provided the stakes were all in line.

In this way, a single tree or a whole orchard may be planted, and each tree will occupy the precise spot where the stake was driven. So, too, if a tree is to be taken up, and another put in its place, it may be done with the certainty of having the new tree occupy the precise spot where the old one stood.

The chief advantage of the tree planter consists in saving the time and labor of sighting rows of trees, to get them in line; for in using this simple contrivance they must line, if the stakes are put in the right places. The rows must be laid off and staked, whether the planter is used or not; and the only additional labor consists in staking the planter at each hole; but the planter can be placed at twenty stakes while a single tree is being planted in the usual way.

The planter may be used with equal facility for planting shrubs, &c. It may be made of a smaller size for this purpose, if desired, but we use only one. Having used it quite extensively, we give it an unqualified commendation. If we knew the name of the inventor, we should take great pleasure in giving him credit for such a useful instrument.

FARMERS' GARDENS.

BY WILLIAM BACON, RICHMOND, MASS.

The time when any thing like a comfortable garden was scarcely known among farmers is yet within the memory of many, of not the very "oldest inhabitants." In those days many, very certainly, had a patch inclosed near the dwelling, which was called the *garden*, whose products inventoried, first and principally, potatoes, a few hills of beans, strips of land two feet wide and ten feet long were severally appropriated to beets, carrots, and onions, with a few hills each of cucumbers, squashes, and a sufficient space for from twenty-five to fifty cabbage plants. These articles, when the men performed the labor, were usually planted or sown soon after the corn and potato planting in the field was ended. If the labor was performed by the women of the household, it was done rather earlier, in the "odd spells" left from other labors.

These gardens were usually poorly attended. The men did not like the small work of weeding onions and carrots. Of course they were neglected, while the potatoes and cabbages (these were more

substantial articles) were hoed in about the same proportion of time as were the field crops.

The result was, these gardens afforded their owners but very little pleasure in summer, or profit in autumn, or comfort the following winter; for in the former season neglect licensed weeds to grow without restraint. In autumn, these weeds, of which the beggar louse and pig weed were competitors for ascendency, so nearly covered up all that it was designed should grow, that an attempt at harvesting would have been any thing but a pleasant or compensating employment. In winter, the tall, dry stalks of these rival weeds told plainly of the fertility of the soil which had given them sustenance, and that they had won their victory over it, almost without effort or obstacle.

The fruits of these gardens consisted mainly of a row of currant bushes, whose roots were protected by turf and weeds, which grew in matted clumps, and knew no other pruning than that afforded by the few straggling sheep or cattle that might run there in early winter; and a few pear trees—real native fruit—whose products so far defied inroads of pilferers, that the swine, if turned in among it, would turn away in disgust. Whether the quaint saying, "root hog or die," had its origin with some father or more tender and affectionate mother, when they saw their hopeful offspring brought to the alternative of choking on these vile products or adopting the rooting system, we have never been advised; but if such counsel were actually given under the circumstances, it speaks better for the instinct of the animal that rejected the fruit, than for the reason of the man who allowed a tree of so worthless a character to cumber his grounds.

Such gardens as we have described are not without their existence now, though we note it as a beautiful feature in the progress of the age, that they are each year diminishing in number. Yet, how many of the good, well-to-do farmers of the present time deprive themselves of many of the beauties and comforts, to say nothing of the luxuries the garden might bring them, almost without money or price? How few of the real cultivators of the soil have ever tasted a cauliflower, or any of the varieties of melons, unless they obtained them in market; or how many have feasted on the better kinds of pears? Take the wide sweep of really independent farmers, and how often can we find in their gardens, or yards even, one grape vine to hang out its clusters and invite them to their healthful feast? It is not because farmers do not like berries, and pears and grapes, as well as others do, that they neglect their cultivation. It is not because they have no leisure time to care for them that they do not go into the cultivation of them. Although there are periods in every season when their business presses so that rest appears like an object never to be attained, yet there is no class of men who have more leisure moments than the painstaking, go-ahead farmer; and if the majority of farmers have not an equal amount of time for relaxation from the labors of the field, the fault is too often their own.

It is a truth sufficiently evident to be well established, that the most business men very often have the best gardens. They commence them for relaxation from other and more engrossing cares, and for the cheap and pleasant amusement they afford; and as they progress, the comfort and profit of the thing leads them forward.

Comfort! How much is implied in the word! It is synonymous with health, and the surroundings that lead to secure it to its possessor. The inhabitants of cities, and villages, and close workshops very well imagine what it is, when they inhale the pure air of the fields, or taste the vegetables and fruits, fresh from their gatherings. And, in appreciation of it, they do not fail, so soon as circumstances will enable them, to feast upon them fresh, the products of their own hands.

Then why do not all farmers, who have land enough and means enough for its improvement, admit themselves and their families to the pleasures, the comforts, and profits of the garden?

It is a matter of congratulation that so many of this class are waking up to the subject, and we hope that this improvement will become contagious, and spread, until every homestead will be adorned with its vines and fruit trees, and that choice vegetables will become as common as their merit demands.

[Mr. Bacon draws a strong picture, but there is only too much truth in it. It is pleasant to know, however, that this kind of gardening is gradually disappearing, while in its place we see something more tidy, better arranged, and very well stocked with a choice class of fruits and vegetables, that add greatly to the comfort and health of the household. There is no reason, outside of themselves, why the great mass of farmers should not fully enjoy all the luxuries which a garden is capable of affording, equally with the millionaire, and at a much less cost. If Mr. Bacon's article should meet the eye of a farmer who has not a neat and well-stocked garden, we hope he will resolve to have one at once.—Ed.]

EXOTIC FERNS.

BY WILLIAM J. DAVIDSON, NEW YORK.

The attention of horticulturists having been increasingly directed, of late years, to this lovely class of plants, than which few are of more easy management, I would, Mr. Editor, agreeably to your expressed wish, offer a few remarks on their cultivation. We often see in a stove-house large numbers of young ferns, growing in all imaginable places, and are apt to wonder how they came there; but when we take a frond with its seed or spores fully ripe, and examine it, our wonder merges into admiration at the beautiful adaptation of nature for their dispersion. We find it covered with almost microscopical seeds, which float off on the least breath of air, and, alighting on some place favorable for their germination, soon become the beautiful plants we admired. To grow ferns from spores, then, we must imitate nature as nearly as possible; and probably the best way is to fill a pot about three parts full of rough peaty earth, and shake the frond or spores over it, and cover with a piece of glass, to prevent evaporation, placing the pot in a saucer of water, which will keep the soil moist enough by capillary attraction. In a week or two, we will see small green scales begin to form on the surface, and in a short time the young fronds begin to appear. The glass may now be gradually removed, and as the plants increase in size and strength, they may be potted off singly into small pots.

With stove and green-house ferns, the same necessity exists for a period of rest, (induced by a lower night temperature in winter and spring,) as in that of the hardy species. We often find this important point overlooked, and in consequence of two or three years' growth being compassed in one season, the plants get spindly and weak, and a slight change or exposure to sunshine or damp at once destroys or disfigures them.

The compost used for their growth should be chiefly peat or leaf mould and sand. A liberal admixture of cocoa fiber is very desirable; indeed, ferns seem to revel in such a mixture, and many of the more delicate and finer varieties grow as they never grew before, when planted in the pure, unadulterated fiber. Moderate-sized pieces of turfy loam may be used with those of stronger growth, as it retains moisture longer than peat does, and causes the fronds to grow shorter and

stouter than if grown in peat alone. A liberal supply of broken pots, freestone, or charcoal may be added, to keep the mixture porous and secure proper drainage, and the compost, except for small pots, should not be sifted.

Shade is, if possible, a greater necessity here than in their out-door management. This is easily managed by roller-blinds or mats, which should be removed on every safe opportunity.

In common with all other plants, ferns often suffer as much from superabundance of water as from want of it. A too common impression prevails that they may be unsparingly watered, and, in consequence, many of the more delicate kinds, especially in winter, perish. The fronds should never be allowed to droop; but as soon as the surface soil looks and feels dry, enough water should be given to wet the ball thoroughly; not a little at a time, and often, as we sometimes see done. Ventilation should also be regularly attended to, especially in hot weather, as a stove fernery, though shaded, would soon become unbearably warm in bright sunshine, while the intense heat would destroy or disfigure many of the tenderer varieties. A slight syringing overhead (except on the succulent and hairy kinds, which should not be wet) is very beneficial, and in hot weather the plants will soon show their gratitude for it, by increased color and luxuriance. It also assists greatly in keeping down thrip, which, with brown scale, are the great pests the fern-grower has to contend with. The thrip soon shows his unwelcome presence by disfiguring the fronds, which should at once be sponged with blood-warm soap and water, or the most infested fronds entirely removed, and the plant dipped in a weak solution (about two ounces to the gallon) of the Gishurst Compound, or carefully fumigated till the insect disappears. *Brown scale* should be removed by hand, while young and light colored, as, if allowed to remain till old and brown, it is merely a cover for microscopic thousands of young ones, which, falling as dust over the other fronds, form new colonies for future extirpation. *Mealy bug* also sometimes shows itself, and should be destroyed in a similar manner.

From such a large class, when all are so interesting and beautiful, it is hard to make a selection. The following, however, will, I think, be found of easy cultivation, and will amply repay the slight attention required to grow them to perfection. Those marked with G. will stand a minimum temperature of 45 degrees.

Acrophorus hispidus, *G.*, and *immersus*, *C.*—Very beautiful and easily grown plants, with finely divided, light green fronds. Avoid sprinkling or syringing these varieties.

Anemidictyon fraxinifolia, *G.*, *tomentosa*, and *phyllitides*, *G.*—Very distinct and handsome flowering ferns, with contracted spike-like fertile fronds.

Adiantum, or Maiden's Hair Fern.—One of the most graceful and beautiful of the whole genus. They have all divided, light green fronds, and are particularly well adapted for vases or hanging baskets. The most showy are *A. affine*, *G.*, *cuneatum*, *G.*, *concinnum*, *caudatum*, *curvatum*, *cardiochlæna*, *formosum*, *G.*, *macrophyllum*, *intermedium*, and *trapeziforme*.

Aleuritopteris Mexicana.—A most beautiful fern, with the habit and appearance of a Chelianthes.

Alsophila radens and *Australis*.—Lovely, large-growing species, combining the grandeur of a tree-fern with a very elegant divisional appearance.

Asplenium.—This family contains many beautiful and well-known varieties, all worthy of a prominent place. The following are the most desirable: *A. bulbiferum*, *G.*, *axillare*, *G.*, *Belangeri*, *G.*, *cicutarium fragrans*, *G.*, *Otites*, *G.*, *falcatum*, *G.*, *præmorsum* and var., *Canariense*, *G.*, *reclinatum*, *G.*, *viviparum*, and *dimorphum*.

Aspidium, *Lastrea*, and *Nephrodium*, comprise a large family, all so nearly alike, that we may rank them all under the head

of "Aspidium." They include many of our most elegant ferns, and are all worthy of cultivation. The most useful and ornamental are: *A. glabellum, Canariense, G., patens, G., augescens, G., decompositum, G., album-punctatum, molle, var., corymbiferum, coriaceum, G., capense, G., pubescens falcatum, G., caryotideum, G., trifoliatum.*

Blechnum.—Beautiful evergreen ferns, of bold habit. Fronds with short stalks, arising from a tree-like stem. *B. Brasiliense, G., corcovadense, occidentale, G., glandulosum, G., pectinatum*, and *longifolium*, are all well deserving a prominent situation.

Cibotium Barometz and *Scheidei* have very stout, long, brownish, hairy stalks, bearing very elegant, spreading, thrice divided fronds.

Cyathea medullaris.—A noble and very distinct tree fern, with numerous long-pointed, dark scales on its crown and stalks.

Cheilanthes.—Exceedingly beautiful and elegant ferns, indispensable in every collection. Very impatient of syringing or drip. The following are general favorites: *elegans, G., farinosa, G., Hirta* and var., *Ellisiana, G., lendigera, radiata, frigida, G.*, and *spectabilis.*

Drynaria coronans, quercifolia, and *morbillosa.*—Most attractive and handsome dark green ferns.

Davallia Canariensis, G.—The beautiful and well-known "Hare's Foot Fern." *D. bullata, G.*, and *dissecta, G.*, are also very beautiful, and make handsome specimens.

Gymnogramma.—The striking and beautiful "Golden and Silver Ferns" rank high in every fern fancier's estimation, and are all easily managed. The following are the most easily procured golden vars.: *ochracea, G., sulphurea, Martensii, chrysophylla*, and *Lacheana.* Silver vars.: *pulchella, tartarea, dealbata, Calamelanos*, and *Peruviana. G. tomentosa* and *rufa* are also favorites with many cultivators.

Goniophlebium appendiculatum, G., and *sub-auriculatum*, must not be overlooked, the fronds of the former having rich crimson mid-ribs and veins, while the latter is one of the best ferns we have for hanging baskets, having graceful drooping fronds from three to six feet in length.

Hemionites palmata.—An ivy-leaf shaped, extremely pretty, and distinct fern, bearing viviparous plants on its fronds.

Hypolepis repens, G. — A well-known handsome fern, with spreading, hairy, light green fronds, excellent for suspending.

Lygodium scandens, G.—An exceedingly elegant climbing fern, forming a dense cover of slender and graceful foliage.

Nothochlæna.—A very elegant family, rather difficult of management, owing chiefly to their dislike of moisture on their fronds. Closely allied to Cheilanthes, which they much resemble. The prettiest are: *lanuginosa, trichomanoides, nivea*, (silver fern,) *flavens* or *chrysophylla*, (golden fern,) and *Eckloniana.*

Onychium Japonicum.—A very slenderly-divided, deep green fern; should be in every collection.

Polypodium.—A large and distinct family, bearing very prominent fruit dots on the fertile fronds, and comprising many choice and useful kinds. The principal are: *pectinatum, G., plumula, G., effusium, G., concinnum, iridioides, phymatodes, Billardieri, aureum, G.*, and *fraxinifolium.*

Pteris.—Very distinct and ornamental ferns, including many indispensable varieties: *P. geraniifolia, ternifolia, hastata, G., rotundifolia, G., lonifolia, G., semipinnata, cretica, albo-lineata, argyræa, G., aspericaulis*, var., *tricolor, scaberula, G., tremula, G.*, and *arguta, G.*, are the most conspicuous and choice varieties.

Platycerium alcicorne and *grande.*—Stag's Horn Ferns. Very interesting ferns, with entire, hoary, light green, fertile fronds, the sterile fronds always prostrate and very distinct. May be grown on mossed blocks of wood, care being taken to keep the blocks well moistened.

Woodwardia or *Doodia caudata* and *aspera* are very pretty little tufted ferns, well worthy of a place in every collection.

Though not ferns, strictly speaking, the large family of *Selaginellas* deserve a passing notice. They are plants of a most attractive and elegant appearance, and include a great variety of form and hue. Many of the species may be used for surfacing large pots, and most useful are: *S. Africana, atroviride, densa, cæsia, circinalis, denticulata, G., lævigata,* (cæsia arborea,) *inæqualifolia, G., lepidophylla, Lyalli, Schotti, G., stolonifera, G., umbrosa, G., Wildenovii, G., serpens,* and *Braziliensis.*

[We must thank Mr. Davidson for complying so promptly with our request for an article on exotic ferns. He has made the subject quite complete, and given a list that is not only good, but easily got, as they may all be bought at a reasonable price of those who grow ferns for sale. Spores or seeds of some of them may also be bought. We should be glad to see ferns more generally grown than they are. Many of them grow finely in plant cases in rooms.—Ed.]

WAYSIDE THOUGHTS UPON ARCHITECTURE.

BY ARTIFICER.

Architecture.—It may be well that we can affirm, in reference to general matters, that the things we love best we know most of. It might be well for us to affirm this much of the distinctive art of architecture, did there not occur so many inconsistencies in our profession and practice of it. While it is true that we can point proudly to works that will stand the test of analysis and criticism in all departments of the art, it is no less true that we are far from realizing its whole worth—all it would bring us if better cultivated and encouraged. How largely and intimately it enters into the concerns of social and domestic life, its wealth of refining influences and impressive language.

Nowhere, that I know of, has architecture found the favor it deserved, of the many institutions of learning scattered through the length and breadth of our beautiful land. No *one* is exclusively dedicated to it. Not even its rudiments are taught in our academies and colleges, where music and painting are considered as essential to a finished education. It may be that this is mostly due to architects themselves, who have neglected to diffuse both the "spirit" and the "letter" of architecture among their countrymen.

I do not believe, with some, that there is any lack of genius on our part powerful enough to control a growing development in architecture, for no land ever gave birth to fairer or better.

Egypt could boast because her river gods ruled and her bondmen wrought. Greece could boast because her temple piles and graceful columns were dedicated to her gods. Rome could boast as long as her "Cæsars" were patrons and the world tributary. America may boast more than all these.

Architecture is understood to mean the "art or science of building," or constructing buildings for all purposes of man, including the domestic, civil, and devotional; so that architecture and building are classed as one and the same thing, when they are as distinct in their offices as painting and sculpture.

Form, in architecture, is the sign or signs of skill, utility, or convenience, and discovers the relation between the symbol and the thing symbolized, and hence means more properly the act of designing for the formation and adornment of buildings upon scientific and art principles. This definition naturally resolves itself into two heads, viz.: designing for the construction of buildings, and design-

ing for their adornment. The former is restricted in its operations to such rules as practice and science have instituted, and a repetition of these rules only is required for all like subjects. While the latter can not be so restricted, it is comparatively limitless in its operations; it may reach as far as the conception of the intellect can reach. Its only landmarks are fitness and proportion; these give beauty; its ruling star, "genius."

Had I time to reflect upon the origin of architecture, we might see how its first principles, in the process of development, became, or gave birth to, second principles. And these, associated in practice under the control of national taste and requirement, became phases, classes, or styles of art, as the Egyptian, Grecian, Roman, Byzantine, Gothic, and Italian styles. It is undoubtedly true that the ancient Greeks derived their first principles for their beautiful system of columnar architecture from what is technically termed the "*primitive hut*," formed of the trunks of trees set upright on the ground, at regular intervals from each other, with rough beams laid horizontally across their tops, and transversely over these smaller ones, exposing to view their naked ends, having a roof of poles and bark over all, as protection from the sun's rays or storm. This simple form, so far as the purposes of utility were concerned, was almost perfect, but was wanting in finish and beauty. So far, constructive skill and requirement had been at work. Afterward, as the mind could conceive the relations between the useful, symbolized in the beautiful, new elements were born into life, which, in the changes of time, under a system of proportion, new conceptions, and increasing care, became the almost "miracles" of perfection and beauty handed down to us under the titles of Doric, Ionic, and Corinthian orders of Architecture.

The "Hut," as a type of all subsequent development, became classed in reference to its parts. Its upright supports, when succeeded by others of grace and symmetry, were styled columns; its horizontal beams, architraves decorated with mouldings; and the space occupied by the ceiling timbers outside was appointed for a frieze; the jutting rafters or inclined roof timbers became carved modillions; the projection of the roof gradually assumed the proportions of an elegant cornice and entablature.

Thus we see the primitive Hut, before it took upon itself a tasteful character, was not architecture; though realizing nearly all the requirements of utility, it could not be architecture until there was proportion to place instead of disproportion; fitness where it was not; harmony for discord, and richness for poverty.

I allude thus briefly to the supposed origin of Grecian Art, that the reader may the more readily distinguish between buildings and architecture; otherwise I might trace it stage by stage, in its glorious ascent over the stepping stones of civilization, mingling its ripe influences with those of Roman, Byzantine, and Italian architecture, until their combined influence and efforts irradiated the whole hemisphere of art.

As a fine art, architecture stands in the first rank, since nearly every science contributes more and more, and, I might say, is necessary to its perfection.

The "store house of nature" has not that which it can not use, and no intellect has or ever can be found powerful and comprehensive enough to mould its last, fitting, and perfect form. It is progressive and far-reaching in its tendencies, because intertwined with the religious, social, and civil elements of society, and it says for each what they can not say for themselves, were its presence wanting. It will point out the church, the domestic dwelling, and the court-house, with all the precision and significance of language; in fact, it *does speak*, in a language whose "*thoughts breathe and words burn.*" It wields, too, a moral power, and is the source of many refining influences, inasmuch as it frequent-

ly lifts our thoughts and aspirations above a common level, and turns them toward the contemplation of that "Infinite Power" who fills so vast a space with such varied forms. The purity of its types, which have served us so well as models, and well springs from which to draw, are every way worthy the assiduity with which our predecessors have labored and wrought, and it would be well for us did we strive to imitate more closely their example. The success they achieved under greater disadvantages than we could possibly encounter on the same road, should greatly encourage and whet our efforts. The art-loving Greeks nurtured architecture tenderly, wrought carefully and beautifully, and reared magnanimously for posterity. They knew not all the sublime forces that told her laws, yet they knocked, and the doors were opened; they perseveringly sought and found, and in the strength and purity of their great faith each mountain barrier was removed and outlier spanned, and the way once rugged and insecure, lined with bramble and bush, became a gentle eminence paved with mosaics of art, of rare device, at whose summit sat its "Goddess." What do we not owe to classic Greece, and who does not love her!

HOT BEDS.—II.

BY THE EDITOR.

It has been suggested that a few remarks on the general management of hot beds would be very acceptable. An early hot bed, or one started in January or February, requires pretty constant attention. Two things require to be kept constantly in mind: first, that the bottom heat shall not die away; secondly, that the frost be kept out by sufficient covering. Loss of heat will not often occur when good material has been used abundantly; it seldom occurs in a good pit; it more frequently happens in a bed made on the surface. It may occur from deficiency of material, from poorness of material, from careless exposure, or from defective covering at night. There are two ways in which it may be restored: first, by making a number of holes in the bed, and filling them with hot water. When this has been done, the bed should be shut up tight, covered warmly, and remain so till the presence of steam gives evidence of a restoration of heat, when the usual routine may be resumed. The heat will sometimes return in a few hours; at other times not for a day or two, and it may even become necessary to repeat the application of hot water, but not often. The second mode of restoring the heat, consists in cutting away the outside of the bed, and applying fresh hot manure in its place. This should be well covered with coarse litter. It will help the process materially if holes are made in the sides of the bed, which will allow of the ready access of heat from the fresh manure, and restore fermentation to the whole mass. If the bed, however, is in the first instance properly made of good material, and unnecessary exposure avoided, all this trouble will seldom be called for.

A sufficiency of covering is a very important matter. Straw mats make an excellent covering; so do woolen blankets, litter, &c.; but whatever the material may be, it should be sufficient to shut out the cold effectually, and prevent the loss of heat. Coarse litter should be placed around the frame up to the very top of it. In very cold weather the covering should be put on before the sun has left the bed, especially if the wind be sharp from the northwest. The covering should be secured by laying boards on it, or otherwise, to prevent it from being blown off. We have known the heat of a bed to be lost in a single night in consequence of the

mats being blown off. Look to this matter, therefore, carefully and constantly. The mats should also be kept on mostly during very cold, cloudy days. In moderate weather, the beds may be uncovered though the sun do not shine, provided the wind is not too high. The object to be kept steadily in view, is to give the growing plants all the sunshine and light possible, and at the same time run no risk of losing the heat. It will be necessary to put the covering on at night till about the first of April. It should not be removed in the morning till the sun is well up.

The subject of ventilation may next be alluded to. In very early beds, this requires almost constant attention. Such beds are usually made up of a large mass of material, in order to insure a strong heat; and this makes ventilation a very delicate matter, especially while the bed is fresh and the plants are young. An experienced gardener will judge of the heat pretty accurately by simply raising the sash; but it is well to keep a thermometer in the bed; and if it be a self-registering one, so much the better. For Cucumbers, for which early beds are made, a temperature of about 80° is a very good one. For most other things, about 70° is much better. When the sun is well up, the beds should be examined, and as the heat increases the sash should be raised a little, say about an inch at first, to be increased towards midday, and lowered again towards night; but the sashes must all be shut down tight at least an hour before sundown. During some days the sashes will not need to be raised at all. The object of ventilation is to prevent the temperature from becoming too high; for if to the rich soil and moist, stimulating air a very high temperature be added, the plants will grow spindly, and come to nought. The sashes, therefore, must be raised when the temperature increases rapidly under a bright sun, and lowered as the sun declines; being careful, all this time, not to allow the heat to escape too rapidly. What is wanted is a pretty high but uniform temperature. It will be needful for the novice, at first, to give both his judgment and attention to this matter pretty closely; but in time experience will make it simple and easy. When a small amount of ventilation is needed, the prop should be placed at the head of the sash; when more is necessary, place the prop at the side. In the latter case, the prop should be placed on the side opposite to that from which the wind is blowing. The wind will then blow over the sash, and not into the frame, and the danger of chilling the plants will be avoided.

The majority of plants grown in hot beds are to be transplanted to the open air, and it is therefore necessary to "harden them off," as it is called. This is done by gradually increasing the amount of ventilation as warm weather approaches, until at last the sashes are left off altogether, when there is no longer any danger of frost. What has now been said, it is hoped, will give the reader a pretty good general idea of the management of a hot-bed. The special treatment of cucumbers, cauliflowers, &c., will be given in separate articles at some other time.

NEW OR RARE PLANTS, &c.

Our list of foreign plants is made up from the *Journal of Horticulture*, *Curtis's Botanical Magazine*, *Floral Magazine*, &c., to all of which we desire to give credit.

Aristolochia leuconeura, (Pale-veined Tree-Aristolochia.)—*Nat. ord.*, Aristolochiaceæ. *Linn.*, Gynandria Hexandria. Native of New Grenada. The flowers are produced in clusters on the lower part of the trunk; limb of the flower purple, beautifully netted with yellow lines. Blooms in the stove during September.—(*Bot. Mag.*, *t.* 5420.)

Pelargonium Bowkeri, (Mr. Bowker's

Pelargonium.) — *Nat. ord.*, Geraniaceæ. *Linn.*, Monadelphia Decandria. Native of the Trans-Kei country, in South Africa. Graceful in foliage and flowers, but the latter are devoid of striking color; they are tinted partially flesh-color and partly yellowish green.—(*Ibid.*, *t.* 5421.)

Schizostylis coccinea, (Crimson Schizostylis.—*Nat. ord.*, Iridaceæ. *Linn.*, Triandria Monogynia. Native of watery places in British Caffraria. Flowers crimson, blooming late in autumn.—(*Ibid.*, *t.* 5422.)

Mimulus repens, (Creeping Monkey-Flower.) — *Nat. ord.*, Scrophulariaceæ. *Linn.*, Didynamia Gymnospermia. Native of extra-tropical Australia, and as far as Victoria, and then in Tasmania. It is also common "in saline situations, and muddy banks of rivers in New Zealand." It will probably require the protection of a cold frame in winter. Its flowers are lilac, partially dotted with yellow.—(*Ibid.*, *t.* 5423.)

Solanum anthropophagorum, (Cannibals' Solanum.)—This is one of the condiments eaten with human flesh by the cannibals of the Fejee Islands. Such flesh, they all acknowledge, is most indigestible; and the fruit of this plant, called by them *Boro dina*, somewhat resembles the Tomato, but having an aromatic smell, is employed to assist digestion, and its leaves are wrapped round the flesh previously to its being baked.—(*Ibid.*, *t.* 5424.)

Rhododendron, *Princess of Wales.*—Prevailing color, dark mauve, shading off to a white throat. Its truss is large, and altogether the variety is superior. Raised by Mr. Young, Milford Nurseries, near Godalming.—(*Floral Mag.*, *pl.* 177.)

Rhododendron, *Countess of Devon.*—Ground color white, with rosy edge, the upper petals being spotted with purplish crimson. The truss is large, and the flowers well formed.—(*Ibid.*, *pl.* 162.) It does not seem to be a very striking variety.

Rose, *Baron de Rothschild.* — Brilliant crimson, very large, and very double.—(*Ibid.*, *pl.* 178.)

Gloxinias.—*Lady Emily Villiers*, pink ground, darker toward the throat, which is white; center of lower segments have a band of white spots. *Lady Victoria Howard*, mauve, toward the throat brownish crimson, throat white; center of lower segments have an irregular band of white lines. *Mademoiselle Suzanne de la Bouvillerie*, segments of corolla dark lilac, throat white. They were raised by Mr. Breeze, and are now in the possession of Messrs. E. G. Henderson & Son.—(*Ibid.*, *pl.* 179.)

Achimenes. — *Purpurea elegans*, claret color, throat orange. *Leopard*, pale crimson, throat orange, spotted with crimson. Raised by Mr. Parsons, of Welwyn, and now possessed by Mr. B. S. Williams, Paradise Nursery, Holloway.—(*Ibid.*, *pl.* 180.)

Azalea, *Louise Van Baden.*—Pure white; shows a slight tendency to sport. Flowers large and well formed, and of remarkable substance. A splendid variety, of Belgian origin.—(*Ibid.*, *pl.* 158.)

Amaryllis, *Regina spectabilis.*—Supposed to be a cross of *A. regina* with *A. spectabilis.* It is of robust growth and deciduous in character. Color dark crimson, with a white stripe down the petals.—(*Ibid.*, *pl.* 159.)

Disa grandiflora.—A splendid terrestrial Orchid, a native of the Cape, and first flowered in England by Charles Leach, Esq. Spike eighteen inches high, with large flowers of great brilliancy.—(*Ibid.*, *pl.* 69.) We doubt whether this Orchid is yet in this country.

Bourbon Rose, *Rev. H. Dombrain.*—Supposed to be from Louise Odier and a dark Hybrid Perpetual. Fine form, large, with regularly-disposed petals. Color vivid crimson.—(*Ibid.*, *pl.* 163.)

Of *home* productions, we do not hear of much in addition to those mentioned in our last. We are very much inclined not to put any thing in this list unless it has been properly endorsed by some Horticultural Society, or we have some personal

knowledge of it. In England they manage such things much better than we do.

PHLOXES.—Last season we received a collection of seedlings from Mr. Isaac Buchanan, of New York. They were an uncommonly fine lot, and it would be easy to select a dozen of first-rate merit. Mr. Buchanan, we understand, will send out the best of them this spring, under name.

STAR IPOMŒA, (*Ipomœa* (*Quamoclit*) *coccinea.*)—Under the name of *Star Ipomœa*, the seeds of this plant are being sent out by Mr. J. Wesley Jones, of Chatham Four Corners, as a novelty. This is a mistake. It is an old inmate of the garden, now mostly superseded by better kinds.

PETUNIAS.—The blotched and striped varieties of the Petunia are destined to become popular. Mr. Buchanan will send out this spring some very fine ones, under name. They are excellent bedding plants, but used in this way, the double and single should not be mixed in the same bed. Mr. Henderson will also add to the list of good ones.

YOKOHAMA SQUASH.—The seed of this very fine Squash, introduced by Mr. Hogg from Japan, will be for sale this spring by our principal seedsmen, Mr. Hogg having placed it in their hands. We have already noticed it. It should be extensively grown.

MONTHLY CALENDAR.—MARCH.

Orchard, Fruit Garden, &c.—This is a busy month among fruit-trees. If they have not been scraped and cleaned, it should not be longer neglected. Continue to look after and destroy the nests of the tent caterpillar and canker worm. The nests of the latter will increase as the weather grows milder. Look well, too, after the borer. Pruning generally may now be done. If the orchard is to be plowed, it may be done as soon as the frost is well out of the ground, but not while the soil is wet. The beginning of the month is a good time to commence propagating the vine from eyes, under glass. The vineyard should be looked over, and trellises, wires, &c., put in order for spring. Vines that were pruned and covered last fall, should remain so for the present. Those that were not pruned last fall, should be pruned now. Grafting the vine may now be done better than later in the season.

The Grapery.—In warm days, top ventilation may be needed in the *Cold Grapery*, to prevent the buds from being excited. In other respects, every thing will remain quiet for the present. Any work to be done in the way of repairing, painting, wiring, &c., should be finished before the vines begin to grow. The *Hot Grapery* must be carefully looked after. If the vines are in bloom, do not syringe them, but keep the air moist by wetting the floor of the house. Thinning out should be done as soon as the grapes are the size of small peas. Handle the bunches as little as possible. Pinch in as needed, and take out all unnecessary growth, while it is *very* small. The shoot from the top bud should have some freedom of growth. Give top ventilation when needed, but only moderately.

Green-House.—Attend to ventilation and watering, as directed last month. Plants that are intended to be removed to the border will require more air than others. All kinds of bedding plants may now be propagated freely. Camellias, while making their new growth, should not be crowded. Azaleas will now be coming into bloom rapidly. Give them plenty of room, and water regularly and fully. A few Caladiums, Begonias, &c., may be repotted and brought forward. Destroy insects, which will now multiply rapidly, if let alone. Look over the plants generally, and repot such as may need it. Seeds of many annuals and biennials may be sown in the green-house for early blooming in the border.

Plants in Rooms.—Attend to watering,

&c., as directed last month. Plants that are making a new growth should be placed nearest the light, while those in bloom or dormant, may be farthest from it. Seeds of half-hardy annuals, &c., may be sown in shallow boxes, set near the window. They should be transplanted into small pots as soon as out of the seed leaf. Kill insects on their first appearance. Verbenas, Petunias, Geraniums, &c., may be propagated.

Ornamental Grounds.—Drive and walks should be put in good order. The lawn may be raked off toward the end of the month. Shrubs, &c., may be pruned. Finish repairing fences, &c.; draw off all rubbish, and put every thing in good order. If trees and shrubs are to be planted, locate them, and dig the holes. Borders and beds may be forked up as soon as the ground gets dry. Apply old manure when needed.

Vegetable Garden.—In this department work will begin in good earnest. Hot-beds may now be made for general sowing of seed, such as Tomato, Radish, Lettuce, Melon, Cucumber, Cabbage, Broccoli, Cauliflower, Pepper, Celery, Egg Plant, Potatoes, Beans, &c. Sow the seed in drills, but Melons and Cucumbers may be sown in small pots. Never use cold water for watering hot-beds. Ventilate during the middle of the day, and shut up early. Cover the glass warmly at night. (See article on Hot-Beds.) Fork up the garden as soon as the ground is dry, toward the end of the month, and sow Peas, Potatoes, Onions, Leek, Windsor Beans, Beets, Carrots, Cress, Lettuce, &c. Transplant from cold frames Lettuce, Cabbage, and Cauliflower. Cold frames should be uncovered during pleasant days all the winter, and at this time should be left uncovered also at night, unless the weather should be quite cold. Finish clearing up rubbish, hauling manure, and clearing up generally, so as to be prepared for good weather, if it should come this month, which we now judge, however, will not be the case.

EDITOR'S TABLE.

To Contributors and Others.—Communications, Letters, Catalogues, Periodicals Remittances, Packages by Express, Advertisements, &c., should be directed to Mead & Woodward, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "The Horticulturist."

We desire to say, Mr. Knowlton, that our issue with you is not that we know much or little about grape culture; that point has been already decided; but the issue is, that you have made a wretched use of the labors of others without the customary acknowledgment. That is the point, and it is a very grave one for you. For a man to disown the "fountain" from which he drew his own inspiration, is very much like a child disowning his father. This thing is getting to be a disgrace to horticultural literature, and we mean to denounce it in proper terms, no matter who the offender may be, or however "vulgar" it may be thought to do so. Vulgar! why the truth is always a vulgar thing to some men. When you have any proper explanation to make, you can have the use of our columns to make it.

Crowded.—We are so much crowded again this month, that we must ask the indulgence of our correspondents. Some communications, requiring immediate notice, will be answered by mail.

THE METROPOLITAN FAIR.—We would earnestly call the attention of our readers to the great Metropolitan Fair, to be held in aid of the Sanitary Commission. It is a subject that appeals strongly to our patriotism and humanity. Our brave soldiers have been stricken down by disease and the bullets of the enemy, and languish for the sympathy and comforts that we are abundantly able to give them. Let conscience for once have her perfect work. We appeal to all our Nurserymen, Florists, Amateurs, Farmers, and Gardeners, to send in their trees, vines, plants, flowers, &c., and let the women convert them into blessings for our sick and dying soldiers. So shall God bless you all more abundantly than ever. We print below the Circular of the Floral Department, which we hope will be read, and responded to in a liberal manner.

Floral Department of the Metropolitan Fair.—It is proposed to have a Department in the Metropolitan Fair, devoted exclusively to the sale of Bouquets, Baskets of Cut Flowers Plants in bloom, Seeds, Roots, Slips, Grafts, &c.; and the Floral Committee appeal to all Gardeners, Florists, owners of Private Green-houses, Nurserymen, Farmers, and persons possessing Rare Plants, to contribute them.

A conspicuous place will be assigned in the Fair to such donations, and the names of their givers will be attached.

Bulbs, Seeds, and all imperishable articles, can be delivered previous to March 28th, at the Receiving Depot, No. 2 Great Jones Street.

Bouquets, Baskets, and Cut Flowers, in every form, are to be sent, during the two weeks of the Fair, to the Palace Gardens, between Sixth and Seventh Avenues, Fourteenth Street, New York, for the Floral Committee, on such days as may be specified by the donors as more convenient, and as may afford a daily supply of fresh flowers for sale. Transportation will be furnished free by the principal Express Companies. It is particularly desired that, when practicable, the flowers may be sent already arranged.

An answer to this communication is earnestly requested, stating what contributions may be expected, and at what times, unless the givers can allow the Floral Committee to name the days.

And surely the ministry of these bright tokens of our Father's love will be doubly blessed, when, after gladdening our senses, their avails shall serve to raise the suffering soldier to health, or to comfort and soothe his dying hours.

They are gifts which Heaven daily renews, and the flowers gathered to-day will be replaced to-morrow, fragrant with the memory of a good deed.

All communications (unless otherwise specified in an accompanying note) may be addressed to Mrs. Geo. Fred. Betts, Ladies' Floral Committee, 241 East Twenty-fifth Street, New York.

Committee of Ladies—Mrs. G. F. Betts, Mrs. Robert S. Howland, Mrs. Robert Colby, Mrs. Albert Gallatin, Mrs. Carl Schurz, Mrs. Thorndike, and other Ladies.

Committee of Gentlemen—Mr. Augustus Belmont, Chairman; Mr. George C. Gray, Mr. Edward Potter, Mr. Lydig Suydam, Mr. Isaac Buchanan, and other Gentlemen.

MISSOURI HORTICULTURAL SOCIETY.—We are indebted to some friend for the late proceedings of this Society. They are very interesting, but we are too much crowded to give an abstact this month.

MR. LANE'S AGENCY.—We would call attention to the purchasing agency of Prof. Lane. To those who wish to employ an agent to make their purchases, we know of none better. His natural tastes and business capacity well fit him for the particular line of business he has taken in hand, and we commend him to our readers as a reliable and faithful man, prompt in all his engagements.

CATALOGUES, &., RECEIVED.

Transactions of the New York State

Agricultural Society, with an Abstract of the Proceedings of the County Agricultural Societies. Vol. xxii., 1862.—Just received. Col. Johnson will please accept our thanks.

Transactions of the Massachusetts Horticultural Society for the Year 1863.—Worthy of a more extended notice, which we shall endeavor to give next month.

Transactions of the Essex Agricultural Society, (Massachusetts,) for the Year 1863.—The *State* is in this time, for which we thank you. We must recur to these Transactions again.

J. M. Thorburn & Co., 15 John Street, New York.—Annual Descriptive Catalogue of Vegetable and Agricultural Seeds, &c.

Alfred Bridgeman, 876 Broadway, New York.—Descriptive Catalogue of Vegetable Seeds, &c. Also, Descriptive Catalogue of Flower Seeds, with practical directions for their Culture and Treatment.

Henry A. Dreer, 714 Chestnut St., Philadelphia.—Garden Calendar for 1864, &c., with select Lists of Seeds, Trees, and Plants.

B. K. Bliss, Springfield, Mass.—Spring Catalogue and Amateur's Guide to the Flower and Kitchen Garden, &c.—The illustrations are well done.

James Vick, Rochester, N. Y.—Illustrated Catalogue of Seeds, and Guide to the Flower Garden, &c.—We can not help saying that the engravings are finely done.

Geo. Baker, Toledo, Ohio.—Descriptive Catalogue of Fruit and Ornamental Trees Shrubs, Vines, &c.

Francis Brill, Newark, N. J.—Catalogue of Summer Flowering Bulbs and Roots for Spring Planting, &c.

J. Knox, Pittsburgh, Penn.—Price List of Small Fruits, &c., for the Spring of 1864.

H. B. Lum, Sandusky, Ohio.—Illustrated Catalogue of Flower Seeds, Cuttings, &c.

Vilmorin, Andrieux, & Co., Paris, France.—General Wholesale Price List of Garden and Agricultural Seeds. Also, Wholesale Price List of Flower Seeds. Ferdinand Korn, Agent, 170 Fulton St., New York.

Correspondence.

Editor Horticulturist—Sir—It seems to me, as it doubtless will to you, a piece of temerity for one of limited information and experience comparatively, in Horticultural lore, to question or qualify the statements of yourself and Dr. Grant, to whom generally we are accustomed to look as oracles. I shall, however, claim the protection of my good intention, which is the same as yours, doubtless, to develop the facts in Horticulture. It is well-nigh passing into an adage that nurserymen and horticultural writers are the biggest liars in the land, so different are their assertions. I don't adopt this sentiment, but attribute all their differences and discrepances to the effect of soil, climate, and treatment. I am strongly impressed with the idea that you nor the Dr. don't make sufficient allowance for these, and sometimes adopt as a demonstration, what in a different section and circumstances may not hold good at all. Dr. Grant says the Concord is offensive, and has a tough, acid center, and intimates that no one with a decently refined taste could find pleasure in eating them. Also says the Anna is exceedingly rich and vinous in flavor, not surpassed by any grape; that it is healthy, vigorous, &c., and you endorse both these, which is doubtless true under the circumstances in which you have seen them; but is the farthest from the truth with others, and under different circumstances. Here the Concord ripens beautifully and thoroughly, and is esteemed very good, even beside Delaware. Here the Anna is worthless; will not grow under the best treatment, and all of our amateurs have not been able to make it bear enough, scarcely to taste; but so far as tasted, the impressions are not the best. So of the Mulberry. I

might say it is esteemed with the Blackberries, *humbugs*. Time would fail me to tell of all these, that in high hope we have planted to awake to bitter disappointments.

If a man should read Grant, Mead, Hussman, Knox, Deliot, and Campbell, &c., and attach equal veracity to each, it seems to me he never could decide which grapes or strawberries to plant. I attribute all this to the tremendous influence of climate, soil, &c., and that at least a partial remedy is to be found in fully recognizing this fact in all catalogues, descriptions, &c. Fully recognized, it will lead to inquiry before planting; and proper selections and proper treatment, lead to success, and success to universal planting and plenty of good fruit. An aid to this end may be found in encouraging reports from all parts of the country from Horticulturists, even if they don't know every thing and, like the writer, not accustomed to write; and to set the example, I will close by saying that here Delaware is good all the time, grows, bears, is healthy and A No. 1 to eat. Allen's Hybrid, with me, grows well, is a delicious and handsome grape, but inclined this year to mildew. Cuyahoga grows well, but mildewed badly. Concord grows strong, bears well; some of my bunches weighed three-quarters of a pound; ripened thoroughly; skin exceedingly thin, with no pungency in it, and though not the best, a very delightful eating grape, even beside Delaware and Allen's Hybrid; will fall some from the bunch when handled. Hartford grows well, ripened a week before Creveling, is foxy, and only good, if one is hungry for grapes. Creveling is a rampant grower, bears well, and is a fair grape, among the best of early grapes. Rogers' No. 19, good grower, large showy grape, but with me about third quality. Can't give it the reputation Mr. Brehm does as to quality. Diana grows well; fruited first time this season; skin tough, with a strong feline taste. I wait in hope with it. Mead's seedling grows well, is much like, if not the same as Catawba; if any difference, a little later, and not quite so good. I can give it a shorter name—humbug. Rebecca, Rogers' No. 15, Lincoln, and others are not in fruit yet; all grow fair and healthy. My Union Village and Lenoir have not grown so well. Catawba and Isabella were rather poor; our tastes are getting rather beyond them; still a perfect Catawba is very nice.

R.

Chillicothe, O.

[It is not safe for any except a close and attentive reader to criticise the opinions of others. This is the first time we ever heard that "it is well-nigh passing into an adage that nurserymen and horticultural writers are the biggest liars in the land," and we take occasion to repudiate it as a gratuitous libel. There are, no doubt, occasional instances of deception and misrepresentation, as in all other trades and professions; but, as a class, there are no more honorable, upright, and intelligent men any where to be found than among "nurserymen and horticultural writers." It can not be expected that all men should agree in matters of taste; some latitude for difference of opinion must be allowed, without calling in question a man's honesty. Now let us examine your position for a moment, and see how far we adopt "demonstrations." Dr. Grant has repeatedly traveled over the West, and we presume bases his opinion on what he has thus seen. We know that we, at least, make abundant allowance for the conditions you name. We are constantly receiving fruit from all sections of the country; and we find some kinds to be uniformly good, some uniformly bad, some good in one section and not in another, and some to vary in a minor degree. We therefore think we are in a good position to give a fair opinion of the current fruits of the day. We think, also, that two men, each speaking for his own locality, may give somewhat dissimilar opinions of the same fruit, without having their veracity brought into question. Taste, too, has something to do with a man's opinion on the subject of fruit. This, with us, in regard to grapes at least, is only at the beginning of a pro-

gressive stage. A man who has all his life been accustomed to the wild grapes of the woods, may at first stick up his nose at even a Cannon Hall Muscat. But all this is changing.—Can you point to the place where we have recommended the Anna for general cultivation? We have said that the Anna, when ripe, is a rich and high-flavored grape; and so it is. It is otherwise when not ripe. We have recommended it to be grown where it will ripen, but not elsewhere. We have said that it does best in a warm, sheltered place, and requires a long season; and that is the case. Are not these "sufficient allowances?" It seems to us that a discriminating man may read Grant, Mead, Hussman, Knox, &c., and decide what to plant without impugning the veracity of either. As to the quality of grapes, they all substantially agree, though some of them differ widely as to which is the most profitable for market. The influence of climate, soil, &c., does not come in at this point at all. In your conclusions on grapes, we can not perceive that you differ materially from any of the gentlemen you have named, and you must therefore come in for a share of your own denunciations, unless you withdraw them.—Ed.]

Dear Sir:—I have prepared ground for planting 2,500 vines in the spring. My preparation consists in draining, the tiles being laid four feet deep and thirty feet apart, with a descent of one foot in twelve or more, and trenching about twenty-six inches deep, honest measurement. My soil is rich loam, a little inclining to gravel, with a fine sod, which yields excellent hay, having the mold or fertile portion about one foot deep. The trenching has been done with a spade by an Englishman, who delights in the work, and he has made an excellent job of it. As the work was in progress, no enrichment was worked in, but the foot of sub-soil that is now superior soil, has been since worked and fertilized. I propose to plant 1000 Delawares, the best plants that I can get from single eyes; 1000 Iona, and 500 Diana. My latitude is about one degree north of New York. The Isabella and Diana ripen well with me. My purpose is to grow grapes for the table, and I would produce none but the best in their best degree of excellence. I hope to add one acre at least, each year, to my vineyard, but not any more than I can have done so well that you will say it need not be better. A few remarks from you will be gratefully received, and especially any suggestions as to improvement, or showing where I am in error. If not in deeply now, good guidance may lead me safely out. I have read your "Hints," and extracts from your lectures, with interest that is always increasing, and my proceedings have been shaped in accordance with them.

With respect, VINEYARDIST.

P. S.—If you will call on me when next you pass, or will make the visit for that sole purpose, you shall not go away with your pocket lighter in consequence. I shall esteem a consultation with you on the ground a pleasure, and an advantage imposing pecuniary obligation.

[You have happily a soil naturally adapted to the growth of the vine. We presume your exposure is equally good. Your preparation is excellent, insuring the permanence of the vine and the perfection of the fruit. When some vineyards, badly prepared, will be showing signs of premature age, yours will be still in the vigor of youth. We hope, in enriching your soil, you have not forgotten to add a little muck. In your future treatment, be careful not to overstimulate your vines. Your selection of grapes for the table is the best that you could have made. We can not perceive wherein you have made an error; so far from it, we think you are in the high way to success. We came very near seeing you last fall. We shall embrace an early opportunity of doing so, for we feel no little interest in your success. Something might suggest itself on the ground that does not on paper.—Ed.]